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Fisheries of Peru, 1972-73

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FISHERIES OF PERU, 1972-73

page

Introduction---------- 1

Anchovy catch---------- 2

Fish meal---------- 3
- Production of fish meal
- Inventories and exports of fish meal
- Domestic sales of fish meal
- Outlook

Fish oil---------- 8
- Fish oil production
- Fish oil exports

Edible fish---------- 10
- Catch
- Canned seafood production and exports
- Frozen seafood production and exports
- Other seafood exports

Industry developments---------- 12
- Labor
- Vessels
- Fishing regulations

International agreements---------- 14

Market outlook---------- 15

FISHERIES OF PERU, 1972-73

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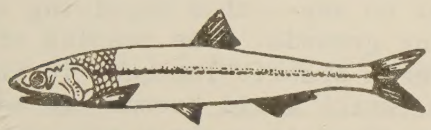
INTRODUCTION

The explosive growth of Peru's fishing industry has been one of the most remarkable developments in the world's fisheries. This fishery has developed because of one species, the Peruvian anchovy (Engraulis ringens). Large schools of these fish abound in the waters off the coast of Peru where the plankton-rich waters of the Humboldt Current provide ideal growth conditions.



Engraulis Ringens

Slightly less than 20 years ago, in 1955, Peru was a modest producer of fish for local consumption. In that year Peruvian fishermen harvested 236,000 metric tons (t) of fish. In the following year, however, the catch tripled, and by 1958 the harvest had soared to over a million tons. In 1962, Peru's anchovy harvest exceeded 7 million tons---surpassing the Japanese catch---making Peru the world's leading fishing nation. Peruvian fishermen continued increasing their efforts and, in 1967, the anchovy catch topped 10 million tons. Large financial investments were made in the harvesting of this seemingly endless resource until 1970 when the landings were 12.3 million tons.

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ANCHOVY CATCH

The year 1970 marked the peak of Peru's unrestricted harvest of this species; the anchovy catch dropped from 12,297,200 tons to 10,305,700 tons in 1971. The Government took steps to regulate the anchovy fishery in early 1972. A regulation was issued which established a March quota of 1.8 million tons.[1/] Fishing was prohibited on Saturdays, Sundays, and Mondays. The regulation also prescribed that fishing vessels could make only one fishing trip per day and that each vessel could not sail more than four times per week. Sanctions were established for violation of these provisions. These regulations were unusually timely because in 1972 the anchovy fleet had grown to 1,399 purse seiners with a net load capacity of 252,838 metric tons.

Unfortunately, a natural disaster struck the anchovy population in 1972. Under normal circumstances the Antarctic-fed waters of the Humboldt Current, which are ladened with life-supporting plankton, flow northward along the western South American coast. In late April 1972, however, a warm current (a phenomenon known in Peru as "El Nino") appeared off the coast of Peru and displaced the Humboldt Current, which was forced further out to sea---thus depriving the anchovies of their normal feeding and spawning grounds. The results of this natural disaster were two-fold: (1) there was a drastic increase in the mortality rate for the new stocks of anchovy (which would become the adults fished in 1973), and (2) the surviving stocks of adult anchovy congregated into tightly packed masses in those areas where cold waters could be found and became easy prey.

Fishing continued in the fall, and, when the year was over, Peru's ultramodern anchovy fleet had made 44,439 "successful" trips and 10,769 "unsuccessful" trips. The catch, however, dropped precipitously to 4.4 million tons---59 percent below the 1971 catch and 65 percent below the record 1970 catch.

The Peruvian anchovy catch during 1973 was only 1.8 million tons---almost 85 percent below the 1970 record catch---pushing Peru well below her former eminence as the world's leading fishing nation. The ruinous predicament of the anchovy industry, which was near financial bankruptcy, was clear by April 1973. On May 7, 1973, the Peruvian Minister of Fisheries, Brig. General Javier Tantalean Vanini, announced the expropriation of the fish meal industry.

The principal reason given for the takeover was the industry's heavy indebtedness, which, according to Government figures, was about US$225 million. A new Government entity, PESCA PERU, was then established to reorganize and administer Peru's fish meal plants. As a final step, anchovy fishing during the last half of 1973 was prohibited.

1/ The January-February period is "closed" to fishing as is the period from mid-June to the beginning of September. Anchovy fishing in Peru normally occurs in March, April, and May and again in the fall.

FISH MEAL INDUSTRY

Production of Fish Meal

Since Peru's fish meal industry depends almost entirely (99.0 percent) on the anchovy,[2/] the sharp decline in the anchovy catch resulted in an equally sharp drop in fish meal production. In 1972, Peru produced 897,048 metric tons of fish meal--54 percent below the 1,934,601 tons in 1971 and 60 percent below the 2,253,439 tons produced in 1970. In 1973, an even more spectacular decline occurred: 423,077 tons of fish meal were produced--53 percent below 1972 levels, 78 percent below 1971, and 81 percent below 1970. Of the existing 123 fish meal plants along the Peruvian coast, only 109 were operating in 1972 compared with 116 in 1971.

Five ports accounted for 67.2 percent of the total fish meal produced in 1972 and for 69.8 percent in the first 8 months of 1973. Table 1 shows the principal areas of fish meal production for 1972/73.

Table 1.--Peru's principal producing areas of fish meal, 1972-73

Area	1972	1973, Jan.-Aug.
	--------Metric t----------	
Chimbote.....	149,038	41,445
Pisco.....	147,771	65,340
Ilo.....	120,151	-
Tambo de Mora	101,907	51,944
Callao.....	81,939	45,498
Supe.....	-	39,132

During the first 3 months of 1973, 130,000 tons of fish meal were produced in pellet form by 32 plants in 11 fishing areas along the Peruvian coast.

2/ Of the 1972 total, 888,539 tons (99.05 percent) of meal came from anchovy and 8,409 tons (0.05 percent) from other fish species. About 5 tons of anchovy yielded 1 ton of fish meal.

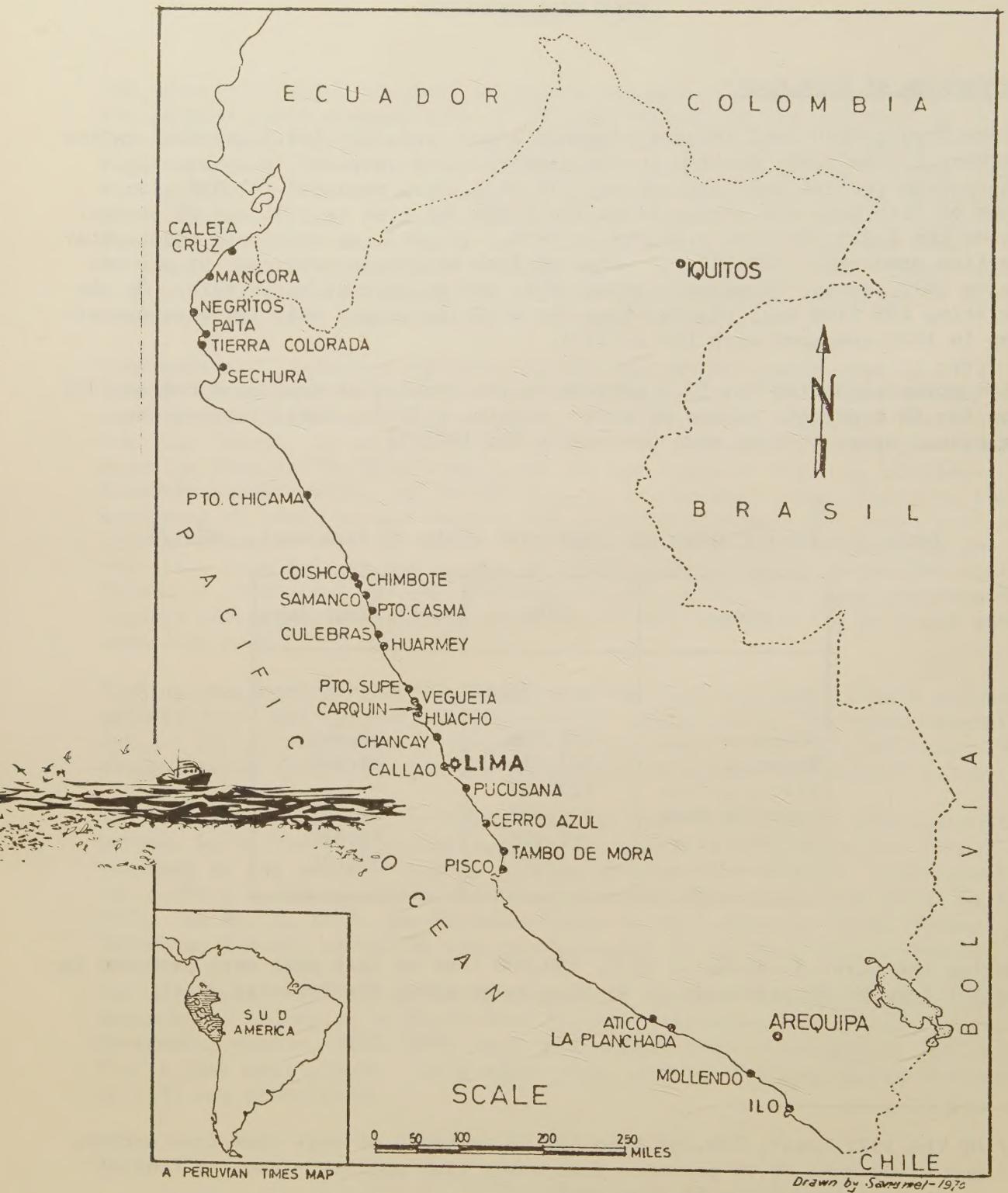

Figure 1.--Peru's fishing ports.

Inventories and Exports of Fish Meal

Virtually all of the country's fish meal production is destined for export, primarily to markets in the United States and Western Europe (table 2). After reaching a peak in 1968 of 2,083,200 tons, Peruvian fish meal exports dropped to 350,973 tons in 1973 (table 3).

Table 2.--Peru's exports of fish meal by country: quantity and value, 1973

Country	Exports		
	Metric t	US$1,000	Dollars per m.t.
West Germany.....	75,684	24,644	325.50
East Germany.....	42,725	27,408	641.50
Netherlands.....	29,719	5,618	189.00
Spain.....	26,134	9,994	382.39
Italy.....	24,512	11,233	458.27
U.S.A.	22,212	5,316	239.33
Yugoslavia.....	17,986	7,779	432.45
Czechoslovakia.....	17,599	6,290	357.40
Mexico.....	12,762	5,332	417.80
Hungary.....	12,628	5,755	455.70
Venezuela.....	11,652	6,909	592.90
Japan.....	10,993	4,750	432.09
Mainland China.....	10,701	1,662	155.34
Romania.....	9,050	5,072	560.47
Cuba.....	8,554	1,350	157.81
Poland.....	8,186	2,864	349.87
Finland.....	2,860	1,576	550.98
United Kingdom.....	2,650	827	312.04
France.....	1,015	143	140.92
Australia.....	1,000	659	659.25
Greece.....	1,000	506	506.02
Sweden.....	555	75	134.23
Guatemala.....	448	66	148.01
Nicaragua.....	300	43	144.03
Colombia.....	48	7	142.29
Total.....	350,973	135,878	387.14
Consigned to storage			
Rotterdam.....	29,679	5,613	189.12
Stockton, Calif.....	8,376	1,508	180.00

Table 3.--Peruvian fish meal exports, 1966-73

Year	Volume	Value
	Thousand tons	Million dollars
1966	1,302.0	181.6
1967	1,560.9	173.1
1968	2,083.2	204.4
1969	1,705.9	200.2
1970	1,885.7	293.7
1971	1,749.6	277.5
1972	1,619.2	233.2
1973	351.0	135.3

In-country inventories of fish meal also began to dwindle. Heavy stocks of fish meal were on hand at the beginning of 1972-- 786,055 tons-- compared with 654,395 tons in 1971 and 306,940 tons in 1970. However, fish meal stocks were only 189,616 tons at the end of August 1972 and were further depleted to 47,523 tons by November 1973.

Table 4.--Peruvian fish meal production, local sales, exports, and stock position by month, 1973

Month	Production	Local sales (and losses)	Exports	End of month stocks
	Metric t			
January.....	5,680	2,376	2,014	61,248
February.....	4,318	3,087	1,069	61,410
March.....	248,934	7,359	0	302,985
April.....	93,250	6,206	4,528	385,501
May.....	16,448	6,109	62,710	333,130
June.....	6,761	4,070	70,781	265,040
July.....	2,524	13,192	96,663	157,709
August.....	3,709	11,203	25,466	124,749
September.....	6,805	5,352	53,788	72,414
October.....	5,977	4,269	22,999	51,123
November.....	16,262	9,812	10,050	47,523
December.....	12,409	7,152	905	51,875
Total.....	423,077	80,187 1/	350,973	

1/ Actual local sales were 66,174 metric tons.

As production and inventory levels plummeted the Peruvian Government on November 8, 1973, banned all exports of fish meal and oil, and canceled all existing sales contracts. The cancellations involved about 1 million tons of fish meal.

The dramatic downturn in Peru's fish meal exports led to serious repercussions on the international market. For example, the average monthly price of Peruvian fish meal, f.o.b. at United States East Coast ports soared from $154.50 in July 1971 to $487.50 in August 1973 when supplies were exhausted and prices were no longer quoted (table 5).

Table 5.--Average monthly price of Peruvian fish meal 1/ f.o.b. East Coast ports, 1971-73

Month	1971	1972	1973
	Dollars per short ton		
January	184.10	163.30	2/347.25
February	178.90	163.60	2/406.25
March	177.30	164.00	2/411.90
April	177.00	171.50	2/405.00
May	169.40	180.60	2/480.00
June	156.80	176.10	3/
July	154.50	180.90	493.75
August	160.10	192.00	487.50
September	159.00	194.90	3/ -
October	157.80	210.80	3/ -
November	157.50	213.00	3/ -
December	158.40	214.00	3/ -
Average 4/	166.10	179.20	451.70

1/ 65-percent protein, bulk, f.o.b. East Coast ports.
2/ Nominal price.
3/ Supplies exhausted, no quotes.
4/ Average weighted by monthly imports of Peruvian fish meal.

These higher prices occurred when an inflationary spiral was already being felt in other areas of the U.S. domestic market. A poor crop year and heavy grain purchases by the Soviet Union had resulted in dwindling supplies of soybean meal in the United States. Soaring demand for soybean meal was pushing the price to all-time highs. Selling at Decatur, Ill., in January 1971 for $86.10 per short ton, soybean meal was bringing $450 per short ton in June 1973. Because soybean meal is one of the major ingredients in poultry feed, broiler prices were also increasing to record levels. In January 1972, broilers were selling at the farm for 13 cents per pound. By September 1973, the price hit

37.8 cents per pound before beginning a modest decline. The shortage of fish meal, a minor ingredient in poultry feed, aggravated the situation and contributed to the overall protein shortage.

The U.S. fish farming industry also had problems directly related to the lack of fish meal, which caused increased prices for fish feeds (for species such as trout, salmon, and catfish) commonly used in aquaculture.

Domestic Sales of Fish Meal

Local sales of fish meal in Peru are insignificant compared to total production. In 1972, local sales were 77,483 tons, compared with 53,362[3/] tons in 1971 and 33,332[4/] tons in 1970. As in past years, all local sales were made to feedstuff producers. Local sales of fish meal during 1973 were 66,174 tons.

Outlook

During November 1973, an exploratory expedition know as "Operacion Eureka" studied the anchovy stocks. "Operacion Eureka" and further exploratory fishing during 1974 have indicated that ocean conditions, including water temperatures, fertility, and plankton growth, are all returning to normal. Anchovy stocks are still considered far below the level of previous years, but are coming back.

Anchovy fishing off the coast of Peru began again early in March 1974, and the limited quota of 500,000 metric tons for the first 3-week period was reached. The harvest was generally satisfying, and, as a result, the April quota was set at 700,000 tons. Reports indicate that fish stocks along the northern coast are recovering and fishing is generally good in all areas. The daily catch during this first period has averaged 60,000 tons, and Peruvian officials expect the total catch for 1974 to reach 3.5 million tons.

Spokesmen for PESCA PERU, the Government-owned fish meal industry, report optimistically that the fish meal yield from raw fish is 22 percent and fish oil yield is 6 percent. (Fish meal recovery during 1974 has ranged between 21.9 percent and 23.8 percent.) Peru hopes to produce about 1 million tons of fish meal in 1974.

FISH OIL

An important ingredient in margarine and shortening in some countries, Peruvian fish and whale oil declined in production from 408,961[5/] tons in 1971 to 224,869 tons in 1972. During 1973, production of fish and whale oil was only 44,522 tons.

3/ Previously reported as 54,378.
4/ Previously reported as 38,694.
5/ Previously reported as 403,718.

Fish Oil Exports

As in the case of fish meal, most of Peru's fish oil is exported. During 1971 and 1972, fish oil exports went principally to the Netherlands, the United Kingdom, and West Germany. Despite lower production, total exports of fish oil increased in 1972 over 1971 (table 6). The increase is attributable to significant stocks held at the close of 1971; however, the value of exports in 1972 was 27.8 percent below 1971 because of lower prices in the international market. Total exports of oil of all kinds for 1973 were only 6,979 tons valued at $1.6 million. Stocks of fish and whale oil were 8,951 tons at the end of December 1973, compared with 25,971 tons at the end of 1972.

Table 6.--Peruvian exports of fish and whale oils, by quantity and by value, 1971-72

Type	1971		1972	
	Metric t	US$1,000	Metric t	US$1,000
Fish:				
Crude.....	96,018	18,400	139,697	17,200
Semi-refined..	169,143	33,100	147,962	20,100
Other fish oil	-	-	3,242	357
Total.....	265,161	51,000	290,901	37,600
Whale:				
Crude.....	3,522	819	863	163
Total.....	3,522	819	863	163
Total oils.....	268,683	52,300	291,764	37,800

EDIBLE FISH

While Peru's edible fish industry still forms only a small part of the total fishing effort, the Government is engaged in a very ambitious program to develop the industry. Although faced with numerous political and social considerations, the Government hopes to make top-quality fish available at realistic prices on a continuing basis.

The Ministry of Fisheries has drawn up a Five-Year Plan (1971-76) which calls for doubling the production of food fish. Included in the expansion plans are 16 fish terminals and 12 inland fish distribution depots. A modern million-dollar fish terminal has been constructed at Callao, and the wholesale fish market has been rebuilt in Lima.

Also, Peru is beginning to tap her once largely unharvested Pacific hake resource. Intended for both domestic consumption and export, landings of hake or merluza are expected to reach 160,000 tons in 1974. From 1967 until 1973, merluza landings in Peru remained around 20,000 tons. Operating under joint venture agreements with EPSEP, the state food fish corporation, foreign-owned factory trawlers are now fishing merluza in Peruvian coastal waters. Four Polish, one Japanese, and two Cuban vessels are now involved in the arrangements.

Catch

The total catch for 1972 was 4,685,402 metric tons (including anchovy), of which 221,624 tons were destined for human consumption. Of this amount, 127,000 tons (2.7 percent of the total catch) were destined for local human consumption compared with 110,000 tons in 1971. Thus, in 1972, fresh fish increased on the Peruvian market by 15.5 percent.

Canned Seafood Production and Exports

Peru's fish canning industry is expanding, because of increased world demand for canned fish, rising domestic sales, and local tax incentives. Of the total 1972 landings of fish for human consumption -- 221,624 tons--75,624 tons went to canning plants. In 1972, production record was set at 26,382 tons, which is 2,307 tons higher than the best production record of 24,075 tons attained in 1961. The canning industry declined during 1962-69 and began to recover only in 1970. The export value of canned fish was $6.3 million in 1972 compared with $4.3 million in 1971, an increase of 48.8 percent.

The price and quality of cans and the erratic supplies of fish continue to hamper the canners, but these problems have not stopped the recent growth of the industry. Bonito and tunas are the main species of fish canned in Peru although there is a growing market for canned sardines and anchovy.

Table 7.--Peruvian exports and re-exports of canned seafood by species, 1971-72

Type	1971		1972	
	Metric t	US dollars	Metric t	US dollars
Bonito.....	5,411	3,700,000	7,060	5,400,000
Sardine....	1,634	523,758	2,366	672,692
Tuna.....	55	27,163	72	30,142
Skipjack...	22	18,393	-	-
Mackerel...	-	-	137	37,041
Other.....	30	6,994	514	142,076
Total..	7,152	4,276,308	10,149	6,281,951

Frozen Seafood Production and Exports

The fish freezing industry in Peru is relatively limited although potential exists for expansion. In a move designed to encourage the growth of the industry, the Ministry of Fisheries has begun to provide freezing facilities at terminals and inland depots. Private companies are experimenting with a wide range of new products, e.g., frozen merluza blocks and frozen anchovy, sardines, and mackerel.

Most of the fish frozen in Peru are destined for export markets. The United States is one of the more profitable markets for these exports, but European and Asian markets are also being supplied.

The main exports of frozen fish are yellowfin tuna and skipjack. Swordfish, shark, hake, and shrimp are also exported on a much smaller scale. Frozen fish exports for 1972 decreased considerably because of the lack of fish in Peruvian waters that year. The mercury scare and the resultant regulations in the United States effectively cut sales of Peruvian swordfish. Thus, the total export value of frozen fish in 1972 was only $1.5 million, compared with $2.8 million in 1971--a decrease of $1.3 million or 47.3 percent.

Table 8.--Peruvian exports of frozen seafood by species, 1971-72

Type	1971		1972	
	Metric t	US dollars	Metric t	US dollars
Tuna.....	6,089	1,700,000	2,285	709,977
Skipjack...	3,960	869,450	1,135	315,841
Swordfish..	180	127,514	71	35,838
Shark.....	20	6,372	81	29,977
Bonito.....	1.5	295	-	-
Other.....	414	77,717	1,516	395,669
Total..	10,664.5	2,781,348	5,088	1,487,302

Other Seafood Exports

Shrimp exports in 1972 increased dramatically to 475 tons valued at $900,188 compared with 110 kilograms valued at $515 in 1971. Despite this increase, shrimp accounted for only 0.03 percent of the total exports of food fish for 1972. Other crustacean exports in 1972 totaled 26,440 kilograms valued at $4,230 There were no exports of other crustaceans in 1971.

INDUSTRY DEVELOPMENTS

Labor

The labor scene in the fishing industry remained stable throughout 1972. In 1973, the decline in anchovy catches began to affect employment, and unemployment within the industry became a serious problem.

The Ministry of Fisheries has attempted to relocate the unemployed fishermen. Five thousand anchovy fishermen have been assigned to maintenance work at the various fish meal plants. Several thousand other fishermen are employed in maintenance and landscaping work for the schools, parks, and public buildings. In June 1973, forty-six purse seiners and their complete crews who previously fished for anchovies were transferred to fishing for food fish.

Evaluations of the unemployment problem in the meal fish industry are now underway in the Ministry of Fisheries, and the final disposition of persons previously employed by the meal industry will depend on the results of these studies.

On May 29, 1973, the Peruvian Government approved Ministerial Resolution No. 07714-73-MA/SG, the regulations for the personal protection of personnel on board fishing vessels. The safety regulations, which will be applied in accordance with three classifications of boats (A,B, and C), state clearly the required items and equipment for each type vessel.

Vessels

During 1972 and 1973, Peru was particularly active in the acquisition of tuna boats. PEPESCA, a joint venture owned 92 percent by the state and 8 percent by a local fish meal company, announced an investment of $25 million in a tuna fishing fleet for the high seas. PEPESCA reportedly has eight tuna boats on order. Three 300 tonners with refrigerating facilities are being built by PICSA 6/ in its shipyard at Chimbote. Five United States designed 1,000-ton tuna clippers will be constructed by a British firm for an estimated cost of $13.2 million. (Two of these clippers will be received in package kits for local assembly by PICSA.) PEPESCA also plans to hire a 1,100 -ton tuna clipper and a 3,000-ton mother ship with a freezing capacity of 200 tons per day.

In addition, Peru purchased, in Japan, a 700-ton trawler with a storage capacity of 400 tons of frozen fish for use in a fishing program off the Peruvian coast, between Callao and Paita.

Shipbuilding for export is also expanding. A local shipyard has signed a contract with a French company for the construction of five 600-ton tuna boats valued at $8 million. In January 1973, two contracts were signed between Cubapesca, the Cuban state fishing company, and several local boat builders for the construction of twelve 600-ton tuna boats and 84 shrimp boats for delivery within 10 to 30 months at a cost of $32 million.

SIMA (Servicio Industrial de la Marina), the Peruvian Navy shipyard, signed licensing arrangements with British, Swiss, and Norwegian firms for the manufacturing in Peru of marine equipment and components, including deck machinery for all types of vessels.

Early in May 1973, SIMA launched for EPCHAP, the state fish meal marketing entity, a vessel regarded as the largest built in South America. Known as the "Jose Olaya," the bulk carrier weighs 25,200 tons deadweight and cost an estimated $380 million.

Fishing Regulations

As Peru becomes more active in the fisheries off of its coast, Government restrictions on foreign fishing are increasing. The Peruvian Government has now prohibited fishing licenses to foreign flag fishing trawlers operating in Peruvian waters, except when these boats operate under contract with fish-

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6/ One of Peru's leading boat builders, Astilleros Picsa, S.A.-Callao

ing companies domiciled in Peru and with the state participating as a partner through EPSEP (Empresa Publica de Servicios Pesqueros).

The Peruvian Government has also imposed stiffer fines on unlicensed foreign fishing boats caught operating within Peru's 200-mile limit. Under the old system, fines were twice the amount of the boat registration ($500) plus the cost of the fishing license, which varies with the tonnage of the vessel. The new fines will total four times the value of the license and the registration for a first offense, doubling for each subsequent offense. The fines are applicable for the repetition of an offense committed within a period of 4 years, whether by different vessels operating for the same owner or by the same master even though operating for different owners.

FOREIGN ASSISTANCE

In 1972, Peru and the Federal Republic of Germany signed a co-operation agreement which provides that the latter country will fully equip an oceanographic fishing vessel to be built in Peru, grant scholarships to the Peruvian fishing sector, and send German experts, equipment, and machinery to Peru.

The Bank of Tokyo of Nassau has agreed to loan to Peru $500,000 for the installation of giant fish traps off the Peruvian coast, near Pisco. The traps will be supplied by a large Japanese trading firm.

In an accord signed on August 20, 1973, the Soviet Union agreed to supply machinery and equipment for the construction of the first stage of the Paita Fishing Complex. Through its company Promashaexport, the Soviet Union will provide technical assistance to the Peruvian Ministry of Fisheries including: (1) the preparation of blueprints and engineering plans for the installation of the construction equipment, (2) the training of Peruvian personnel in the Soviet Union, and (3) the detailing of experts and technicians to Peru to supervise the refrigerating facilities, powerplants, mechanical shops, and laboratory and port equipment involved in the complex works.

MARKET OUTLOOK

Developments in the Peruvian fishing industry during the past 2 years have centered around the anchovy harvest and the expropriation of the fish meal industry. The market available to U.S. producers and exporters will, for the foreseeable future, continue to be closely associated with these two factors.

Purchases related to the fish meal industry will be made only after the evaluation of the expropriated fish meal companies now underway is completed. There appear to be adequate stocks of fishing nets, sonar, echosounders and other electronic equipment, fisherman's safety wearing apparel, and plant and vessel maintenance supplies. It is therefore anticipated that immediate purchases will be confined to replacement and repair parts.

In addition, a small market is expected to continue for specialized fishing equipment, navigational instruments, electronic fish detecting equipment and sonar gear, refrigeration equipment and supplies, marine motors, compressors, and fine marine hardware.

Should the lack of anchovy continue along the Peruvian coast, United States sales to Peru will drop to a very low level. However, if the anchovy returns in adequate numbers or if Peruvian boats are quickly converted to other types of fishing, United States export prospects will improve considerably.

The long-range outlook for increased sales depends on the Government's success in diverting resources to fishing for human consumption and to the shipbuilding industry. In addition to small fishing boats for other countries, Peru has begun to build large tuna boats. If Peru is successful in developing a ship-building industry for the Andean countries, United States suppliers would encounter a larger market extending beyond Peru.

The fundamental change confronting U.S. exporters relates to negotiations. PESCA PERU, as the Government entity, will be in charge of all purchases of equipment and supplies and will, most likely, emphasize credit terms, prices, and quality. Rather than confronting a number of individual firms, U.S. suppliers should be prepared to deal with a Government bureaucracy holding monopoly power.